

The Divergence Theorem



Question

If $\vec{F} = x\vec{i} + y\vec{j} - z\vec{k}$, then compute $\iint_S \vec{F} \cdot \vec{n} \, dS$ over the surface of the rectangular box with side lengths 1, 2, and 3 shown with the inward orientation.

- A. -6
- B. 0
- C. 6
- D. There is not enough information.

